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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/779,442

Applicant(s)

LEE, HO-KEUNG

Examiner

REDENTOR M. PASIA

Art Unit

2416

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-6, 13, 14 and 16-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 16 and 23 is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 14, 17-22 and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on 06/18/2009 has been entered. Claims 1, 3-6, 13-14, 16-22 have been amended. Claim 2 has been canceled. Claims 25-28 have been added. Claims 1, 3-6, 13-14, 16-28 are still pending in this application, with claims 1, 13, 17 and 25 being independent.

Response to Arguments

- Amendments

Applicant's Attorney has shown in Applicant's Remarks (dated 06/18/2009) at page 9, that the newly added claims 25-28 are fully supported by the amendments to the Specification (dated 10/15/2007). Examiner agrees with the Applicant's Attorney and it is also noted that the amendments to the Specification did not introduce new matter.

- Claim Objections and Rejections under 35 USC 112

Applicant's arguments, see Applicant's Remarks, pages 9-10, with respect to claims objections (minor informalities) and rejections under 35 USC 112 2nd (indefiniteness) have been fully considered and are persuasive. Claims 2-5, 13, 16-17 were amended to correct the deficiencies. The objection and rejection of claims 2-5, 13, 16-17 has been withdrawn.

- Rejections under 35 USC 101

Applicant's arguments, see Applicant's Remarks, page 10, with respect to rejection of claims 1-6, 13-14, and 16 under 35 USC 101, have been fully considered and are persuasive. The above-mentioned claims were amended to specifically show that the claims are directed to statutory subject matter. The rejection of claims 1-6, 13-14, and 16 has been withdrawn.

- Prior Art Rejections under 35 USC 102 and 35 USC 103

Applicant's arguments with respect to claims 1, 3-6, 14, 17-22 have been considered but are moot in view of the new ground(s) of rejection.

- Allowable Subject Matter

Claims 13 and 16 were amended to overcome the rejections under 35 USC 112 2nd and 35 USC 101. Claim 24 is a new claim dependent upon claim 13. Claims 13, 16 and 24 are allowed. See Allowable Subject Matter section below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 14, 17-18, 23 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan et al. (US 7,293,106; hereinafter Natarajan) in view of Shah et al. (US 2003/0208572; hereinafter Shah).

As to claim 1, Natarajan shows a network element management system (NEMS) including processing equipment (Note network system shown in Figure 3 employing the methods shown in Figures 1-2, 6-7)

adapted to perform a method (Figures 1-2 shows a method) of analyzing a plurality of network elements (Figures 1-2; note that the method includes the step of determining other nodes in a path based on information requested)

configured to support at least one established communication path in a network (Figures 1-2; note that the information obtained is used to determine other nodes in the path from the start node to the end node of a given network; col. 2, lines 12-18; the path is considered to be an active path since the information is obtained from at least some of the nodes in the path, in response to the request. In this instance, the active path is seen as being the same as an established communication path. This interpretation will also be applied to the remainder of the Office Action.), the method comprising:

receiving a notification signal (Figures 1-2; step 200; note the request made; the request can be a user request (i.e. user input from terminal) initiated by software (i.e. software running from network manager or other network elements from network), or any other type of request for node information; further note the request is for an electronic representation of nodes in the active path from start node and end node; this can be seen as either updating topology

information; If a network element, or a user requests this information, the network manager sees this as an instruction/event that it has to perform in order to satisfy the request.)

in response to receiving the notification signal (Figure 1-2; note step of querying is in response to the request), querying (Figures 1-2, steps 200-204; note that information obtained in step 204 related to routing table information; col. 2, lines 22-34; note that the routing table (i.e. MIB table) is maintained using Simple Network Management Protocol (SNMP); col. 1, line 11-21; further on, SNMP uses queries to obtain information from MIB tables of nodes) a network element (Figure 1-2; note current node in the path) in the network (Figures 1-2; col. 2, lines 7-9; note the network that includes the active path between start node and end node) for local network information (Figures 1-2; col. 2, lines 48-49; col. 3, lines 16-17; note information from the routing table. This information can be seen as local network information since the information only deals with information relating to the active path.);

receiving (Figures 1-2; step 204, obtaining step) the local network information from the network element in response to querying (Figure 2, step 204; note that step 204 includes obtaining (receiving) information from the routing table of the current node (claimed network element) in response to the noted queries using SNMP.)

the local network information (Figures 1-2; note information from routing table) comprising one or more items selected from the group including topology information, and connection information (Figures 1-2; col. 2, lines 22-47; note that the information included in a routing table includes information concerning next hop information(claimed topology and connection information). Additionally, the routing table is noted to include information about routes/paths and connectivity among nodes.);

analyzing the local network information received (Figures 1-2; step 204; col. 3, liens 19-20; note that the information from the routing table of the current node in the path is *used to find* the “another” node in the path; note that in order find the “another” node, the current node analyzes (*used to find*) the information obtained from the routing table.) to map an established communication path in the network (Figure 2, step 212 shows the step of producing electronic representation of nodes in the path; col. 4, lines 14 to 16; it is noted that the electronic representation (i.e. electronic display, table, printed representation) can be produced at any time in the Figure 2 method; the electronic representation shows the connectivity between the nodes along the active path. In this instance, the Examiner views step 212 as being performed after step 204);

responsive to the local network information received and the established communication path mapped in the analyzing step (Figure 2, step 208 is after 204 and the transferred 212 and in this instance, step 208 is responsive to prior steps), selecting a next network element of the established communication path for querying (Figure 2, step 208, setting current node to another node along the path, afterwards, the method repeats in order to obtain information from the routing table of the current node until an end node is found); and

if the next network element has been selected, iterating the method from the querying step for the next network element (Figure 2, step 208, setting current node to another node along the path, afterwards, the method repeats in order to obtain information from the routing table of the current node until an end node is found).

Additionally, it is noted that the request, as discussed above, can be initiated by software (i.e. software running from network manager or other network elements from network), and is also seen as step to update topology information.

Even though, Natarajan shows the notification signal, Natarajan does not specifically show the notification signal being indicative that a new communication path has been established in the network.

However, the above-mentioned claim limitations are well-established in the art as evidenced by Shah. Shah shows a topology change notification mechanism is provided to notify topology changes in a subnet of a switched fabric including at least a host system, a target system and switches interconnected via links (abstract).

Specifically, Shah shows notification signal being indicative that a new communication path has been established in the network (Figure 8; Par. 0052, 0058; note that the notification sent by the subnet manager to different clients indicate topology changes including new data path dynamically created.)

In view of the above, having the system of Natarajan, then given the well-established teaching of Shah, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Natarajan as taught by Shah, since it has been noted by the Shah (in Par. 0017) that the topology change notification mechanism is applicable to different networks, in order to clients to easily become aware of dynamic topology changes, including, for example, the creation of new paths when links and switched are inserted into the switched fabric data network, and the destruction of existing data paths when links and switches are removed from the same switched fabric data network (Par. 0006).

As to claim 14, modified Natarajan shows a step of storing communication path data of the established communication path in the network (Natarajan: col. 4, lines 42-46; note that the network topology information (i.e. information obtained in method of Figures 1-2) is stored in a network manager 312 of a network manager computer 314).

As to claim 17, Natarajan shows an apparatus (Figure 3, Network Manager Computer 314) for analyzing a plurality of network elements (Figures 1-2; ; note methods performed by Network Manager; note that the method includes the step of determining other nodes in a path based on information requested) interconnected to form a communication network (Figure 3 shows a network with interconnected network elements) and configured to support at least one established communication path in the communication network, (Figures 1-2; note that the information obtained is used to determine other nodes in the path from the start node to the end node of a given network; col. 2, lines 12-18; the path is considered to be an active path since the information is obtained from at least some of the nodes in the path, in response to the request. In this instance, the active path is seen as being the same as an established communication path. This interpretation will also be applied to the remainder of the Office Action.) the apparatus comprising:

means (Figure 3; network manager 312), responsive (Figure 1-2; note step of querying is in response to the request) to receiving a notification signal (Figures 1-2; step 200; note the request made; the request can be a user request (i.e. user input from terminal) initiated by software (i.e. software running from network manager or other network elements from network), or any other type of request for node information; further note the request is for an electronic representation of nodes in the active path from start node and end node; this can be seen as either

updating topology information; If a network element, or a user requests this information, the network manager sees this as an instruction/event that it has to perform in order to satisfy the request.)

for querying (Figures 1-2, steps 200-204; note that information obtained in step 204 related to routing table information; col. 2, lines 22-34; note that the routing table (i.e. MIB table) is maintained using Simple Network Management Protocol (SNMP); col. 1, line 11-21; further on, SNMP uses queries to obtain information from MIB tables of nodes) a network element (Figure 1-2; note current node in the path) in the communication network (Figures 1-2; col. 2, lines 7-9; note the network that includes the active path between start node and end node) for local network information (Figures 1-2; col. 2, lines 48-49; col. 3, lines 16-17; note information from the routing table. This information can be seen as local network information since the information only deals with information relating to the active path.),

the local network information (Figures 1-2; note information from routing table) comprising one or more items selected from the group including topology information, and connection information (Figures 1-2; col. 2, lines 22-47; note that the information included in a routing table includes information concerning next hop information(claimed topology and connection information). Additionally, the routing table is noted to include information about routes/paths and connectivity among nodes.);

means (Figure 3; network manager 312), responsive to receipt of the local network information, for analyzing the local network information received (Figures 1-2; step 204; col. 3, lines 19-20; note that the information from the routing table of the current node in the path is *used to find* the “another” node in the path; note that in order find the “another” node, the current

node analyzes (*used to find*) the information obtained from the routing table.) to map an established communication path in the network (Figure 2, step 212 shows the step of producing electronic representation of nodes in the path; col. 4, lines 14 to 16; it is noted that the electronic representation (i.e. electronic display, table, printed representation) can be produced at any time in the Figure 2 method; the electronic representation shows the connectivity between the nodes along the active path. In this instance, the Examiner views step 212 as being performed after step 204); and

means (Figure 3; network manager 312), responsive to the local network information received and the established communication path mapped in the analyzing means (Figure 2, step 208 is after 204 and the transferred 212 and in this instance, step 208 is responsive to prior steps), for selecting a next network element of the established communication path for querying (Figure 2, step 208, setting current node to another node along the path, afterwards, the method repeats in order to obtain information from the routing table of the current node until an end node is found);

wherein the means for querying is responsive to a notification that the next network element has been selected (Figure 2, step 208, setting current node to another node along the path, afterwards, the method repeats in order to obtain information from the routing table of the current node until an end node is found).

Additionally, it is noted that the request, as discussed above, can be initiated by software (i.e. software running from network manager or other network elements from network), and is also seen as step to update topology information.

Even though, Natarajan shows the notification signal, Natarajan does not specifically show the notification signal being indicative that a new communication path has been established in the network.

However, the above-mentioned claim limitations are well-established in the art as evidenced by Shah. Shah shows a topology change notification mechanism is provided to notify topology changes in a subnet of a switched fabric including at least a host system, a target system and switches interconnected via links (abstract).

Specifically, Shah shows notification signal being indicative that a new communication path has been established in the network (Figure 8; Par. 0052, 0058; note that the notification sent by the subnet manager to different clients indicate topology changes including new data path dynamically created.)

In view of the above, having the system of Natarajan, then given the well-established teaching of Shah, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Natarajan as taught by Shah, since it has been noted by the Shah (in Par. 0017) that the topology change notification mechanism is applicable to different networks, in order to clients to easily become aware of dynamic topology changes, including, for example, the creation of new paths when links and switched are inserted into the switched fabric data network, and the destruction of existing data paths when links and switches are removed from the same switched fabric data network (Par. 0006).

As to claim 18, modified Natarajan shows means for receiving the notification signal from one or more network elements, the notification signal indicative of a network event (Natarajan: Figures 1-2; step 200; note the request made; the request can be a user request (i.e.

user input from terminal) initiated by software (i.e. software running from network manager or other network elements from network), or any other type of request for node information; further note the request is for an electronic representation of nodes in the active path from start node and end node; this can be seen as either updating topology information; If a network element, or a user requests this information, the network manager sees this as an instruction/event that it has to perform in order to satisfy the request.).

As to claim 23, modified Natarajan shows a means for storing communication path data of the established communication path in the network (Natarajan: Figure 4-5; note communication path data stored in routing tables.).

As to claim 25, Natarajan shows a computer readable storage medium storing instructions, wherein the instructions, when executed by a processor (Note network system shown in Figure 3 employing the methods shown in Figures 1-2, 6-7 are performed by a computer), cause the processor to perform

a method (Figure 1-2) for analyzing a plurality of network elements (Figures 1-2; note that the method includes the step of determining other nodes in a path based on information requested)

configured to support at least one established communication path in a network (Figures 1-2; note that the information obtained is used to determine other nodes in the path from the start node to the end node of a given network; col. 2, lines 12-18; the path is considered to be an active path since the information is obtained from at least some of the nodes in the path, in response to the request. In this instance, the active path is seen as being the same as an

established communication path. This interpretation will also be applied to the remainder of the Office Action.), the method comprising:

receiving a notification signal (Figures 1-2; step 200; note the request made; the request can be a user request (i.e. user input from terminal) initiated by software (i.e. software running from network manager or other network elements from network), or any other type of request for node information; further note the request is for an electronic representation of nodes in the active path from start node and end node; this can be seen as either updating topology information; If a network element, or a user requests this information, the network manager sees this as an instruction/event that it has to perform in order to satisfy the request.)

in response to receiving the notification signal (Figure 1-2; note step of querying is in response to the request), querying (Figures 1-2, steps 200-204; note that information obtained in step 204 related to routing table information; col. 2, lines 22-34; note that the routing table (i.e. MIB table) is maintained using Simple Network Management Protocol (SNMP); col. 1, line 11-21; further on, SNMP uses queries to obtain information from MIB tables of nodes) a network element (Figure 1-2; note current node in the path) in the network (Figures 1-2; col. 2, lines 7-9; note the network that includes the active path between start node and end node) for local network information (Figures 1-2; col. 2, lines 48-49; col. 3, lines 16-17; note information from the routing table. This information can be seen as local network information since the information only deals with information relating to the active path.);

receiving (Figures 1-2; step 204, obtaining step) the local network information from the network element in response to querying (Figure 2, step 204; note that step 204 includes

obtaining (receiving) information from the routing table of the current node (claimed network element) in response to the noted queries using SNMP.)

the local network information (Figures 1-2; note information from routing table) comprising one or more items selected from the group including topology information, and connection information (Figures 1-2; col. 2, lines 22-47; note that the information included in a routing table includes information concerning next hop information(claimed topology and connection information). Additionally, the routing table is noted to include information about routes/paths and connectivity among nodes.);

analyzing the local network information received (Figures 1-2; step 204; col. 3, lines 19-20; note that the information from the routing table of the current node in the path is *used to find* the “another” node in the path; note that in order find the “another” node, the current node analyzes (*used to find*) the information obtained from the routing table.) to map an established communication path in the network (Figure 2, step 212 shows the step of producing electronic representation of nodes in the path; col. 4, lines 14 to 16; it is noted that the electronic representation (i.e. electronic display, table, printed representation) can be produced at any time in the Figure 2 method; the electronic representation shows the connectivity between the nodes along the active path. In this instance, the Examiner views step 212 as being performed after step 204);

responsive to the local network information received and the established communication path mapped in the analyzing step (Figure 2, step 208 is after 204 and the transferred 212 and in this instance, step 208 is responsive to prior steps), selecting a next network element of the established communication path for querying (Figure 2, step 208, setting current node to another

node along the path, afterwards, the method repeats in order to obtain information from the routing table of the current node until an end node is found); and

if the next network element has been selected, iterating the method from the querying step for the next network element (Figure 2, step 208, setting current node to another node along the path, afterwards, the method repeats in order to obtain information from the routing table of the current node until an end node is found).

Additionally, it is noted that the request, as discussed above, can be initiated by software (i.e. software running from network manager or other network elements from network), and is also seen as step to update topology information.

Even though, Natarajan shows the notification signal, Natarajan does not specifically show the notification signal being indicative that a new communication path has been established in the network.

However, the above-mentioned claim limitations are well-established in the art as evidenced by Shah. Shah shows a topology change notification mechanism is provided to notify topology changes in a subnet of a switched fabric including at least a host system, a target system and switches interconnected via links (abstract).

Specifically, Shah shows notification signal being indicative that a new communication path has been established in the network (Figure 8; Par. 0052, 0058; note that the notification sent by the subnet manager to different clients indicate topology changes including new data path dynamically created.)

In view of the above, having the system of Natarajan, then given the well-established teaching of Shah, it would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the system of Natarajan as taught by Shah, since it has been noted by the Shah (in Par. 0017) that the topology change notification mechanism is applicable to different networks, in order to clients to easily become aware of dynamic topology changes, including, for example, the creation of new paths when links and switched are inserted into the switched fabric data network, and the destruction of existing data paths when links and switches are removed from the same switched fabric data network (Par. 0006).

4. **Claims 3-6, 19-22 and 26-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan et al. (US 7,293,106; hereinafter Natarajan) in view of Shah et al. (US 2003/0208572; hereinafter Shah) in further view of Bertin et al. (US 6,400,681; hereinafter Bertin).

As to claim 3, modified Natarajan shows the analyzing the communication path data step, as discussed above. However, modified Natarajan does not specifically show the step of determining network capacity using communication path data from the analyzing step.

However, the above-mentioned claim limitation is well-established in the art as shown by Bertin. Bertin shows the step of determining network capacity after analyzing path parameters (Figure 6-7 shows that one of the characteristics indicated in the Topology Database/Link Characteristics is the total capacity (claimed bandwidth); Figure 7 (steps that include 707) specifically show the step of determining whether the link has enough bandwidth after analyzing path parameters in step 704).

In view of the above, having the system of modified Natarajan and then given the well-established teachings of Bertin, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of modified Natarajan, as taught by Bertin in

order to minimize the connection setup delay and in particular the time to select an optimal path throughout the network (col. 5, lines 49-51).

As to claim 4, modified Natarajan shows the analyzing the communication path data step, as discussed above. However, modified Natarajan does not specifically show the step of determining network performance using communication path data from the analyzing step.

However, the above-mentioned claim limitation is well-established in the art as shown by Bertin. Bertin shows the step of determining network performance (col. 12, 17-37; it is noted that there are multiple variables that determine the performance of a network, which includes connection setup delay, connection blocking probability, etc. The quantities have an affect upon how paths are computed. It is noted that these parameters are related in determining the elements of the routing database shown in Figure 4).

In view of the above, having the system of modified Natarajan and then given the well-established teachings of Bertin, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of modified Natarajan, as taught by Bertin in order to minimize the connection setup delay and in particular the time to select an optimal path throughout the network (col. 5, lines 49-51).

As to claim 5, modified Natarajan shows the analyzing the communication path data step, as discussed above. However, modified Natarajan does not specifically show the step of detecting network faults using communication path data from the analyzing step.

However, the above-mentioned claim limitation is well-established in the art as shown by Bertin. Bertin shows the step of detecting network faults (col. 12, 17-37; it is noted that there are multiple variables that determine the performance of a network, which includes loss probability,

error probability, etc. The quantities have an affect upon how paths are computed. It is noted that these parameters are related in determining the elements of the routing database shown in Figure 4; Figure 12, step 1201; col. 21, lines 40-42 shows a test that determines whether or not the configuration update is related to a change in the link state (i.e. failure on the link).

In view of the above, having the system of modified Natarajan and then given the well-established teachings of Bertin, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the system of modified Natarajan, as taught by Bertin in order to minimize the connection setup delay and in particular the time to select an optimal path throughout the network (col. 5, lines 49-51).

As to claim 6, modified Natarajan shows the topology information includes a routing table (Figures 1-2; col. 2, lines 22-34; note information from routing table). Also, modified Natarajan shows the connection information, as discussed in rejection of claim 1. However, modified Natarajan does not specifically show a connection table.

However, the above-mentioned claim limitation is well-established in the art as shown by Bertin. Bertin shows a routing table and a connection table (Figures 4-6; col. 5, lines 55-60 shows a Routing Database (claimed routing table) for storing the selected or computed paths with their characteristics and the Topology Database (claimed connection table) for storing network configuration and traffic characteristics. The Routing Database is updated simultaneously with the Topology Database.).

In view of the above, having the system of modified Natarajan and then given the well-established teachings of Bertin, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the system of modified Natarajan, as taught by Bertin

in order to minimize the connection setup delay and in particular the time to select an optimal path throughout the network (col. 5, lines 49-51).

As to claims 19, 20, 21 and 22, these claims are rejected using the same reasoning set forth in the rejection of claims 3, 4, 5, and 6, respectively.

As to claims 26, 27 and 28, these claims are rejected using the same reasoning set forth in the rejection of claims 3, 4 and 5, respectively.

Allowable Subject Matter

5. **Claims 13, 16 and 24 are allowed.** Claims 16 and 24 are dependent upon claim 13.

The closest prior art, Natarajan et al. (US 7,293,106; hereinafter Natarajan) discloses querying the network element for routing information; receiving the routing information from the network element; analyzing the routing information received to map the new established communication path in the network; selecting a next network element to query along the new established communication path (details provided in the above rejection of independent claims 1 and 17.).

Specifically, Natarajan does not disclose the circuit identifier information and the step of comparing (matching) the connection information along with the circuit information to determine a match and the additional steps are performed when a match condition occurs. The additional steps further includes a specific process/method that details the interaction between a Network Element Management System and other network elements in the network. The interaction includes exchange of information needed for topology maintenance and/or discovery.

It should also be further noted that either information (i.e. connection information and circuit identifier information) are received from prior reception of a notification signal (for the circuit identifier information) and the reception of the connection information in response to the first querying step.

Thus for the reasons shown above, the prior art Natarajan, either singularly or in combination, fails to anticipate or render the above features of claims 13, 16 and 24 of the present application obvious.

6. Additionally, the Examiner notes that the method claim presented in claim 13 satisfies the requirements set forth by 35 U.S.C. 101.

Claim 13 was amended (per amendments entered 06/18/2009) to specifically show that the method steps are performed by a Network Element Management System (NEMS). The NEMS is embodied in a computer system having at least a processor for executing instructions, a memory for storing instructions to be executed and an input/output functionality for receiving instructions, as shown in Par. 0038.2 as presented in the amendments to the Specification (dated 10/15/2007).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REDENTOR M. PASIA whose telephone number is (571)272-9745. The examiner can normally be reached on M-F 7:00am to 3:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2416

/Redentor M Pasia/
Examiner, Art Unit 2416

